## MONTHLY WEATHER REVIEW

Severe local storms, March, 1931-Continued

Place	Date	Time	Width of path, yards	Loss of life	Value of property destroyed	Character of storm	Remarks	Authority	
Knozville, Tenn. (near)	8					Snow	Minor property damage	Official, U., S. Weather Bureau.	
Memphis, Tenn Maryland (central part)	8					High winds	Two boats blown from dock and sunk	Do. Do.	
Northport section of Long Island, N. Y.	8				50,000	do	Summer homes and bathhouses damaged	Do.	
Westchester County, N. Y	8					do	Thousands of dollars damage to houses, trees, signs, windows, and telephone and power lines.	D <sub>0</sub> .	
Massachusetts, New Hamp- shire and Vermont.					l	Snow and wind	Transportation crippled over large area	D <sub>0</sub> .	
Eastern Shore, Virginia and Maryland.	16–17				\$1,000,000	Heavy snow and high winds.	Damage chiefly to overhead wires	Do.	
Desdemons, Tex	19	1			t .	Wind and hail	inred.	Do.	
Clinton, Okla		_				Tornado	Store and school annex demolished; 12 homes unroofed; a score of persons injured; path	Washington News (D. C.).	
Pensacola, Fla	21	a. m				High wind	2 boats beached; sign boards blown down: windows broken.	Official, U.S. Weather Bureau	
Colorado, Iowa, Kansas, Missouri, Nebraska, Okla- homa, Wisconsin, and Wy- oming, parts of.	25-28			25		Blizzard	Highways and country roads impassable; thousands of cattle killed; great loss of sheep and hogs; trains delayed; 5 children died in school bus stalled near Towner, Colo., on the 27th; scattered deaths else- where.	Do.	
Kerr, Kendall, and Blanco Counties, Tex.	27	12.15 a. m 1 a. m.			10,000	Hail	buildings: some loss of livestock	Do.	
Jacksonville, Fla	28					Wind squall	Considerable damage to trees and hanging signs; small pleasure yacht damaged dock and boat slips.	Do.	
Macedonia, Fla. (near)	28	4-5 p. m				Wind		Do.	
Mulberry to Winter Haven, Fla.	31	10.30 a. m.			50,000		A number of residences damaged, 1 com- pletely demolished; considerable injury to groves; several persons injured; path 20 miles long.	Do.	
Indian River City, Fla	1	11.30 p. m.					1 residence, several garages, and a water tank damaged.	Do.	
Talbot, Meriweather, and Upson Counties, Ga.	1					hailstorms.	persons injured.	Do.	
Alabama (central and south- ern counties).	31			1		Hailstorms and 2 tornadoes.	Considerable damage to farm buildings and other property in Coffee and Elmore Coun- ties by tornadoes; damage by hail in Clin- ton County.	Ъо.	

<sup>&</sup>lt;sup>1</sup> Mi. signifies miles instead of yards.

## RIVERS AND FLOODS

## By Montrose W. Hayes

Floods in March were of minor consequence. The few rivers that overflowed were out of banks for a very short time and no high stages were reached.

During the week beginning March 22 the temperatures were in the fifties and snow melted rapidly over the upper part of the Susquehanna Basin, in New York. Rain late in the week further augmented the melting and the Chenango and Tioughnioga Rivers and smaller streams ran bankful. Some highways along the Tioughnioga were flooded, and a man was drowned, due to the overturning of a canoe by the swift current, at Blodgetts Mills, near Cortland, N. Y. There was no other flooding in the Atlantic Seaboard drainage.

The St. Francis River, in southeast Missouri and northeast Arkansas, and the Black River, in northeast Arkansas, were out of their banks in the second week of the month, but the overflow was slight and the damage was almost negligible.

The Sulphur River, a tributary of the Red, was in very moderate flood twice. The rises were rapid and there was a total loss of about \$12,000 in livestock, and about an equal saving made possible by the flood warnings.

In the Trinity River, in Texas, there were slight overflows during the first half of the month. The damage was confined to levees under construction.

Some of the rivers of Washington and Oregon were in flood on March 31. These floods will be considered in the April, 1931, Monthly Weather Review.

The following reports from officials in charge of Weather Bureau offices are considered of interest:

Cairo, Ill.—Ohio River dams in this district were lowered on February 14, except No. 52, which remained up till February 17. The dams had been up since the last week in May, 1930. They were originally intended as an aid to navigation in the summer and autumn low-water periods, but the prolonged drought made necessary their operation through the winter.

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New Orleans, La.—The Mississippi and Atchafalaya Rivers were unusually low for the season. Lower stages have been recorded, notably in the first half of March, 1895, but the absence of any material rise in March, 1931, gave an average stage of 3.1 feet on the Carrollton (New Orleans) gage, which is lower than any previous average stage for the month.

Table of flood stages in March, 1931

River and station	Flood	Above flood stages—dates		Crest	
	stage	From-	То	Stage	Date
ATLANTIC DRAINAGE Chenango: Sherburne, N. Y	Feet 8	29	29	Feet 8. 1	29
St. Francis: Chaonia, Mo Fisk, Mo St. Francis, Ark. Black: Black Rock, Ark. Sulphur: Ringo Crossing, Tex	20 18 14	8 9 13 8 3 28	9 12 17 12 5 28	23. 8 23. 2 19. 4 17. 5 24. 0 22. 0	9 10 15 9 3 28
WEST GULF DRAINAGE Trinity: Dallas, Tex Trinidad, Tex		{ 1 8 6	5 9 10	31. 8 28. 7 29. 5	3 8 8–9
PACIFIC DRAINAGE  North Santiam: Mehama, Oreg	10	31 31 31	(1) (1) (1)	15. 5 15. 5 10. 6	

I Flood continued into April.